EFFECTIVENESS OF ONLINE AND FACE TO FACE MODES OF TEACHING ON THE ACADEMIC PERFORMANCE OF SCIENCE AT HIGHER SECONDARY LEVEL SCHOOL STUDENTS.

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SYNOPSIS

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Effectiveness of Online and Face-to-Face Modes of Teaching on the Academic Performance of Science at Higher Secondary Level School Students

Introduction

Education creates harmony between man's God-gifted abilities and outside life. It is a purposeful deliberate and planned process that can be described as a psychological, social, scientific, and philosophical process. Due to this individuality can be fully developed in today's Era. Education plays a very important role in the prosperity of any country. The situation of developed countries shows that these countries have made full use of education to achieve the goal of development. In the present era, education has great importance for the survival and development of material and civilization. Education is considered a basic need of human beings therefore in the constitution of our country education has been given the status of a fundamental right.

Need and Importance of Online and Offline Learning in School Education

School education provides students with the best opportunities to acquire knowledge in the fields of literature, mathematics, science, politics, history, and many other important subjects. Schooling also plays a great role in shaping the curious minds of children. Kothari Commission had commented that "the destiny of a nation is nurtured in its classroom". Classroom can have three parts one is the students other is the teacher and the third is the education imparted in the classroom. According to the Kothari Commission (1964-66) on science education it has been emphasized that the commission has made two important recommendations concerning teaching methods-(i) inventing new methods and recommending them in all schools. (ii) creating flexibility and functionality in the education system to invent methods. The commission declared it necessary to give freedom to the teachers to invent new methods. According to the Secondary Education Commission (1952-53): more emphasis should be laid on technical education so that children can develop professionally.

Today's learning process involves a student actively constructing their knowledge. Students are engaged in applying their knowledge and understanding concepts during the whole learning process. A good pedagogy is based on a commitment to systematic understanding.

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Today new techniques are used in T.L.P to make student learning more effective. With The help of technology to do a job effectively whenever a problem arises it has been the nature of humans to solve it. Technology is related to the access of information to the public which is the effective transfer of information between an individual, group, and community. In this Era achieving the goals of education and better teaching can be done through ICT. Online learning is accessible at the mass level and learners interestingly understand the concept. Online learning allows students to learn at their own pace and schedule. Students can make their notes, review, lecture, and make their assignments.

Offline or face-to-face interaction boosts discipline and motivation in students and makes them confident. Any problem during class was fixed by the teacher recently. Offline learning such as experiments, field trips, and group learning allows students to learn more and gain knowledge from the outside world. Assessment during face-to-face learning considers better evaluation in real-time and provides immediate feedback on their test.

Review of related literature:

Comas-Quinn, Anna (2011) in her research paper "Learning to teach online or Learning to become an online teacher: An Exploration of teachers' Experience in a blended learning course" Presented in which it has been tried to explain how teachers transfer their new concepts and ideas to students through online technology such as innovation in education. The researcher has used qualitative research for this survey. On a small group of teachers whose number was determined to be 20, an open-ended questionnaire was conducted all of them which was related to the online environment, course knowledge, student participation, online teaching, technical issues from all the teachers, and their thoughts and suggestions on the course. was asked to give the researcher identified the theme through three semi-structured interviews which three teachers who had experience in online teaching as well as engaging in online learning. All 20 teachers were trained in synchronous online teaching out of which 18 teachers felt confident using it 16 out of 20 teachers found themselves ready for the virtual learning environment - only one teacher could create his blog and two teachers could encourage their students to keep blogs

Biswas & Dey(2020) in their article entitled Offline vs. Online Education: Opportunities and Challenges in the Indian Context have discussed the opportunities and challenges of online and

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offline education. It is not possible to identify the better alternative of the two because each one has distinct advantages and disadvantages over the other. Traditional educational systems through offline-based face-to-face classrooms cannot be replaced. Online education is good for specific courses and can act as a supplement to the education process to make it more interactive and interesting. As soon as we return to normalcy in the COVID-19 era, we should move back to offline education

Maria , Ellis & Goodyear(2010) In his research paper Learning through face-to-face and online discussions: Associations between students' conceptions, approaches, and academic performance in political science. This study's findings have implications at both theoretical and practical levels. Conceptually, these findings are significant because they provide further evidence for a model of student learning based on the interrelatedness of the different aspects of student learning. Our findings are fully consistent with previous related research but they also focus on integration between face-to-face and online learning experiences. Specifically, it is suggested that to maximize the likelihood of more meaningful learning, face-to-face and online activities such as discussion should be experienced by students in an integrated way, as two interconnected parts of the same learning experience.

Suresh & Priya(2018) wrote in their article 'Effect of e-learning on academic performance of undergraduate students'. Overall, traditional learning is expensive and takes a long time, and the results can vary. E-learning offers an alternative that is faster, cheaper, and potentially better. E-learning has to be implemented and made available to everyone easily.

Yaseen, Alsoud, Nofal & Abdelkader (2021) wrote in their article 'The Effects of Online Learning on Students' Performance: A Comparison between UK and Jordanian Universities, and concluded that the findings of this study indicate that both Jordan and the UK have experienced a similar impact on student performance due to online learning. There have been technological challenges that have hindered communication between students and faculties. The survey of students indicates that those students who have good academic conduct have been able to adapt to the transition to online platforms, but the semi-structured interview of the professors indicated that there have also been cases where academically good students were unable to perform at their

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best due to not having high technological competence or access to the hardware required to continue performing as well as other students.

Jordan Christy (2016) presented his Ph.D. thesis entitled "Educational Development for Online Teaching". Their objective was to understand the teaching practice of online course college teachers and their ability to deliver instruction with motivation. Their study is based on Exploration and Discovery - the researcher conducted an online survey of 34 college teachers participating in the Online course development institute, 18 teachers out of 34 teachers were selected for an interview, and thematic analysis of the interview was done and data according to the theme was summarize. The majority of the teachers believed that they could transfer what they had learned from face-to-face (61.8%) and Online mode (77.4%) to the students - this is the rate of learning in online mode. Increasing teachers' prior experience in ICT-technical knowledge and using more digital tools has increased teachers' motivation to provide online teaching.

Amin, Malla, Dar, Rasool, and Yousuf (2022) wrote in the research paper 'Comparative Study on Effectiveness of Online & Offline Learning among Higher Education Students in Kashmir'. To Assess the effectiveness of online learning and assess the effectiveness of offline learning. It was concluded that Offline learning is more focused, less interrupted, more reliable, more interactive, and keeps students attentive. Online learning may not be the same as offline learning, but during the current situation of the COVID-19 pandemic, it provides benefits to the students, saves their time, and improve their academic performance.

You, Tang, yang(2021) in his article entitled The Difference of Effectiveness Between Online and Offline Class' concluded that Online classes, as a new way of teaching became popular in recent years, bringing students and teachers the convenience of studying and teaching wherever they are comfortable with. However, the large scale of using online teaching. Communicating with teachers: When facing materials, a student doesn't quite understand in class, go asking the teacher right after class or on that day. If a student doesn't ask the question right away, as time goes on, the memory of the problem will fade, and the number of questions will accumulate so that a student won't have the enthusiasm to figure out the problem anymore.

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Statement of the Problem

"Effectiveness of Online and Face-to-Face Modes of Teaching on the Academic Performance of Science at Higher Secondary Level School Students"

Operational Definition

Academic performance: Academic performance is the outcome of a learner's score on a particular test or examination. Academic performance involves factors such as intellectual level, personality, motivation, skills, interests, study habits, self-esteem, or the teacher-student relationship.

Effectiveness: The effect of online and offline modes of learning impact on learners and standing objective would be achieved and problems would be solved.

Online: It means learning from a computer, laptop, smartphone, etc. which has connectivity with the internet.

Offline or Face-to-face learning: It means learning without an internet connection and print resources accessed by the higher secondary level students on science studies content

Objectives:

Researchers have formulated the following objectives based on the nature of the problems.

1. To study the effectiveness of online and offline learning on academic performance among the higher secondary science boys students of Government and private schools in Darbhanga.
2. To study the effectiveness of the online and offline landing on academic performance among the higher secondary science girls students of Government and private schools in Darbhanga,
3. To study the effectiveness of online and offline learning on academic performance among the higher secondary science boys students of government schools in the urban area of Darbhanga.

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4. To study the effectiveness of online and offline learning on academic performance among the higher secondary science boys students of government schools in rural areas of Darbhanga.

5. To study the effectiveness of online and offline learning on academic performance among the higher secondary science girls students of government schools in an urban area of Darbhanga.

6. To study the effectiveness of online and offline learning on academic performance among the higher secondary science girls students of government schools in rural areas of Darbhanga.

7. To study the effectiveness of online and offline learning on academic performance among the higher secondary science boys students of private schools in urban area of Darbhanga.

8. To study the effectiveness of online and offline learning on academic performance among the higher secondary science boys students of private schools in rural areas of Darbhanga.

9. To study the effectiveness of online and offline learning on academic performance among the higher secondary science girls students of private schools in urban area of Darbhanga.

10. To study the effectiveness of online and offline learning on academic performance among the higher secondary science girls students of private schools in rural areas of Darbhanga.

11. To study the effectiveness of online and offline learning on academic performance among the higher secondary science students of the urban area of Darbhanga.

12. To study the effectiveness of online and offline learning on academic performance among the higher secondary science students of the rural area of Darbhanga.

Hypothesis:

1. To exist a significant difference among the higher secondary science boys students of Government and private schools in Darbhanga for the effectiveness of the online and offline landing on academic performance.

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2. To exist a significant difference among the higher secondary science girls students of government & private schools in Darbhanga for the effectiveness of online and offline learning on academic performance.

3. There does not exist any significant difference among the higher secondary science boys students of Government and private schools in an urban area of Darbhanga for the effectiveness of online and offline learning on academic performance.

4. There does not exist any significant difference between higher secondary science boys students of Government and private schools in rural areas of Darbhanga for the effectiveness of online and offline learning on academic performance.

5. There does not exist any significant difference between higher secondary science girls students of government & private schools in the urban area of Darbhanga for the effectiveness of online and offline learning on academic performance.

6. There does not exist any significant difference between higher secondary science girls students of government & private schools in rural areas of Darbhanga for the effectiveness of online and offline learning on academic performance.

7. To exist a significant difference among the higher secondary science boys students of Government and private schools in urban and rural areas of Darbhanga for the effectiveness of online and offline learning on academic performance.

8. To exist a significant difference among the higher secondary science girls students of Government and private schools in urban and rural areas of Darbhanga for the effectiveness of online and offline learning on academic performance.

9. There does not exist any significant difference between higher secondary science boys and girls students of government schools in the urban area of Darbhanga.

10. There does not exist any significant difference between higher secondary science boys and girls students of government schools in rural area of Darbhanga,

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11. There does not exist any significant difference between higher secondary science boys and girls students of private schools in urban area of Darbhanga.

12. There does not exist any significant difference between higher secondary science boys and girls students of private schools in rural areas of Darbhanga.

Research Methodology:

The descriptive survey method will be used to gather information from students who have been studying both offline and online mode.

Population:

400 science students will be selected through a stratified simple random sampling from higher secondary schools of Darbhanga district carrying study online and face-to-face mode.

Sample:

400 science students will be selected through a stratified simple random sampling from higher secondary schools which are situated in Darbhanga. 400 boys and girls in which 200 students from each government and private school further separated 100 boys and 100 girls in government and private school each also from each 100 students 50 boys and 50 girls belong to urban and rural areas.

Tools for the data collection:

Self-developed tools will be used by a researcher with the help of the supervisor.

Statistical Techniques:

Percentage, t-test, Chi-square test, correlation & other Suitable Statistical techniques will be used according to the objectives.

Delimitation:

- This study is only applicable to the Darbhanga district.

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- Descriptive research stratified simple random sampling will be used.

EXPECTED CHAPTERS

SERIAL NO.	CONTENTS.
1.	INTRODUCTION
2.	REVIEW OF RELATED LITERATURE
3.	RESEARCH METHODOLOGY
4.	DATA ANALYSIS AND INTERPRETATION
5.	FINDING AND CONCLUSION
• REFERENCES/BIBLIOGRAPHY • APPENDICES	

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